

IN THE CLAIMS

1. (currently amended) A plate heat exchanger for the exchange of heat between a first ~~(11, 12)~~ and a second ~~(13, 14)~~ air stream, with a multiplicity of plates ~~(1)~~ which delimit exchange spaces ~~(4, 5)~~ lying next to one another in the transverse direction with respect to the plates ~~(1)~~, the first air stream ~~(11, 12)~~ being capable of flowing through some of the exchange spaces ~~(4)~~ and the second air stream ~~(13, 14)~~ being capable of flowing through the rest of the exchange spaces ~~(5)~~, the second air stream consisting of ~~the~~ exhaust air ~~(13)~~ which originates from ~~the~~ rooms to be ventilated and which, conducted through the exchange spaces ~~(5)~~ of the heat exchanger, is to be discharged as outgoing air ~~(14)~~ outside the rooms to be ventilated, characterized in that a water distribution system ~~(20, 21, 17, 9)~~ is provided, by means of which water can be discharged into the exchange spaces ~~(5)~~ of the second air stream ~~(13, 14)~~.

2. (currently amended) The plate heat exchanger as claimed in claim 1, characterized in that the water distribution system ~~(20, 21)~~ has a multiplicity of nozzles ~~(21)~~, by means of which the water can be sprayed as a fine mist and can be discharged thus into the exchange space ~~(5)~~.

3. (original) The plate heat exchanger as claimed in either one of claims 1 or 2, characterized in that, in the lower region of the heat exchanger, a water collection device is provided, by means of which the collected water can be discharged, in particular, via a siphon.

4. (currently amended) The plate heat exchanger as claimed in either one of claims 1 or 2 ~~one of claims 1 to 3~~, characterized in that at least in each case one conductive plate ~~(1)~~ belonging to each exchange space ~~(4)~~ of the first air stream ~~(11, 12)~~ is

designed conductively, and in that, in the region of the supply ~~(11)~~ of the first air stream ~~(11, 12)~~, an ionization device ~~(6)~~ is provided, by means of which particles entrained in the air stream can be ionized, so that these are deposited on said conductive plates in the exchange spaces ~~(4)~~ of the first air stream ~~(11, 12)~~.

5. (currently amended) The plate heat exchanger as claimed in claim 4, characterized in that the ionization device comprises an ionization filament network ~~(6)~~ charged with a direct high voltage, and in that said conductive plates ~~(1)~~ are at ground potential.

6. (currently amended) The plate heat exchanger as claimed in claim 4 ~~or 5~~, characterized in that the water distribution system ~~(17, 9)~~ can be controlled in order to spray water periodically into the exchange spaces ~~(4, 5)~~ in order to purify the plates ~~(1)~~ of the heat exchanger and the ionization device ~~(6)~~ of deposited particles, bacteria, algae and other deposits.

7. (currently amended) The plate heat exchanger as claimed in claim 4 ~~one of claims 4 to 6~~, characterized in that said water distribution system ~~(8, 7, 17, 9)~~ is also provided in the region of the ionization device ~~(6)~~, so that water can be discharged into the exchange spaces ~~(4)~~ of the first air stream ~~(11, 12)~~.

8. (currently amended) The plate heat exchanger as claimed in claim 7, characterized in that at least parts of the said conductive plates ~~(1)~~ of the first air stream ~~(11, 12)~~ have a purification-acting region which consists of high-grade steel bearing the material numbers 1.4571 or 1.4301.

9. (currently amended) The plate heat exchanger as claimed in ~~one of claims 1 to 8~~ claim 1, characterized in that the first

~~{11, 12}~~ and second ~~{13, 14}~~ air streams flow through the exchange spaces ~~{4, 5}~~ in countercurrent.

10. (currently amended) The plate heat exchanger as claimed in claim 1 ~~one of claims 1 to 9~~, characterized in that a ~~the~~ supply ~~{13}~~ of the second air stream ~~{13, 14}~~ is arranged in an ~~the~~ upper region of the heat exchanger, in that ~~the~~ discharge ~~{14}~~ of the second air stream ~~{13, 14}~~ is arranged in a ~~the~~ lower region of the heat exchanger, and in that the water distribution system ~~{20, 21, 17, 9}~~ is arranged in the ~~an~~ upper region above the plates ~~{1}~~ of the heat exchanger.